

Work Order ID 143870-*Spl-2*

143870

Page 1

Item ID: D5061-3 Accept *5* *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Aft Wearplate
 Start Date: 3/31/2016 Start Qty: 10.00 *10*
 Required Date: 4/8/2016 Req'd Qty: 10.00 *10*
 Reference: Cust Item ID:
 Customer:

Approvals: Process Plan: *SH* Date: *20160324* Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D5061	A

110 FLOW WATER JET 0.00

110

Waterjet

FLOW CNC Waterjet

FLOW WATER JET

Memo

1- Cut as per Dwg
 Dwg Rev: *A*
 Prog Rev: *A*
 2-Deburr if necessary

0.03

(8)

DC 16/04/04

120

120

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

(8)

DC 16/04/04

130

130

QC

Quality Control

QC8- Inspect parts - second check

0.00

Memo

0.00

(8)

DC 38

APR 05 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 143870

March 24, 2016 11:48:41 AM

143870

Page 2

Item ID: D5061-3 Accept ***N900040100*** Setup Start ***NS1***
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 Item Name: Aft Wearplate
 Start Date: 3/31/2016 Start Qty: 10.00 ***10*** Cust Item ID:
 Required Date: 4/8/2016 Req'd Qty: 10.00 ***10*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Brake NC Brake NC	Form as per dwg NC BRAKE Memo Form joggle as per dwg.	0.00 0.02			DAS 30 9-89	<u>8</u>			APR 11 2016
150 *150* QC Quality Control	QC6- Inspect dimensions to drawing Memo	0.00 0.00				<u>8</u>			DAS 30 9-89 APR 11 2016
160 *160* Large Fab Large Fab	Large Fab Memo Weld hard surface as per QSI 004 and Dwg D5061 2059 Hardcoat Rod	0.00 0.05				<u>5</u>			16-04-18 JPR

130145

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 143870

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143870

Page 3

Item ID: D5061-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Aft Wearplate
Start Date: 3/31/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 4/8/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 *170* QC Quality Control	QC9- Inspect visual per QSI004- Fusion Welds Memo	0.00 0.00				⑤	①	16-04-19	DAS 9 9-89
180 *180* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				⑤		16-04-19	DAS 9 9-89
183 *183* HandFinish Hand Finishing	Memo APPLY ROCKGARD AS PER DWG A/R ROCKGARD BATCH: <u>134410</u>	0.00 0.01				5			DAS 41 9-89 16-4-19

P.T.O.

DQA:

Date: 16-05-10

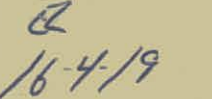


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 16/04/27

Work Order update only

Work Order: 143870 Part No. D5061-3 NCR No. 16-5745		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☒ Composite ☐ Supplier ☐					
Date: 16-04-19		Step #: 160		QTY Effective: ①		MRB (QSI042) Approval DAS 9 9-89 16-04-19 Completed By  16-04-19 Lead hand / Supervisor Approval Verification  16-4-19 QC / QA Coordinator Approval DAS 9 9-89 16-04-19			
Description Work Order Deviation				Disposition					
1 wearplate was use for testing P.C. product improvement				scrap & destroy					
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☒ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ ☒ Fit/Function Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER :									

Work Order ID 143870

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Page 4

Item ID: D5061-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Aft Wearplate
Start Date: 3/31/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 4/8/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
186 *186* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<u>5</u>			 APR 20 2016
190 *190* Packaging Packaging	Identify as per dwg & Stock Location: <u>FP-002</u> Packaging Memo	0.00 0.00				<u>x5</u>	<u>91</u>	<u>16/04/21</u>	
200 *200* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.02				<u>MCS</u>			 APR 21 2016 MCS APR 21 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

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Page 1

Work Order ID: 143870

143870

Parent Item: D5061-3

D5061-3

Parent Item Name: Aft Wearplate

Start Date: 3/31/2016

Required Date: 4/8/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 14.02.13 NEW ISSUE DD VERF:JLM IPP
REV:B 14.04.21 rev.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA		Purchased		No			sf	265.7960		33.13684			

M304S18GA

304/316 .050 Sheet

Dec 16/04/04

Location

Loc Qty

Loc Code

MAT020

265.796

M133328

168.296

M133587

97.5

20

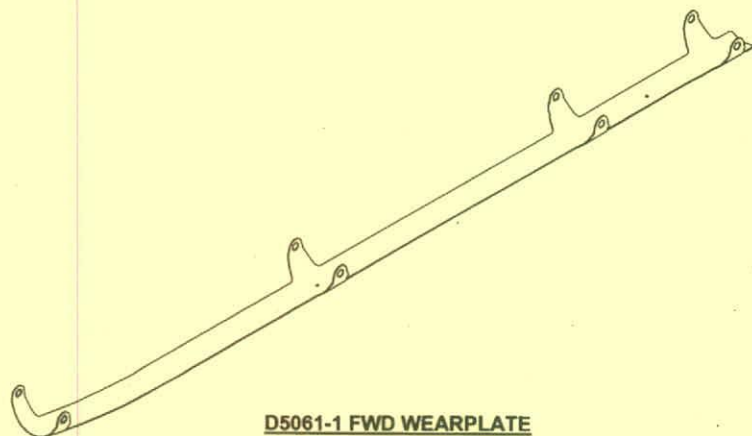
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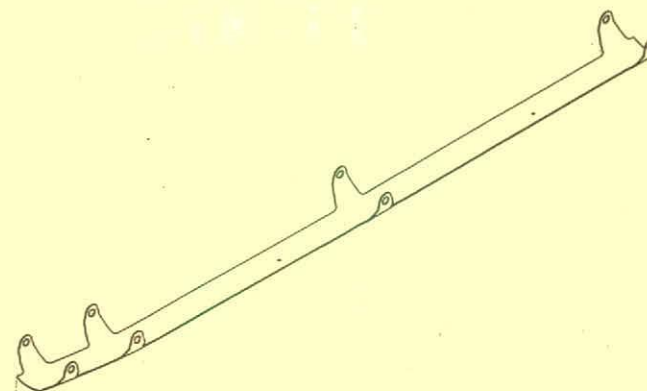
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B

A



D5061-1 FWD WEARPLATE



D5061-3 AFT WEARPLATE

RELEASED
2014-04-15

20160324

SH 143870

APPROVED

A		NEW ISSUE		AP		14.04.08	
REV.		DESCRIPTION		BY		DATE	
DESIGN		AP		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN		AJS					
CHECKED		AP		DRAWING NO.		REV. A	
MFG. APPR.		DD		D5061		SHEET 1 OF 5	
APPROVED		MP		TITLE		SCALE	
DE-APPR.		D8		WEARPLATE		NTS	
DATE		14.04.08		COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

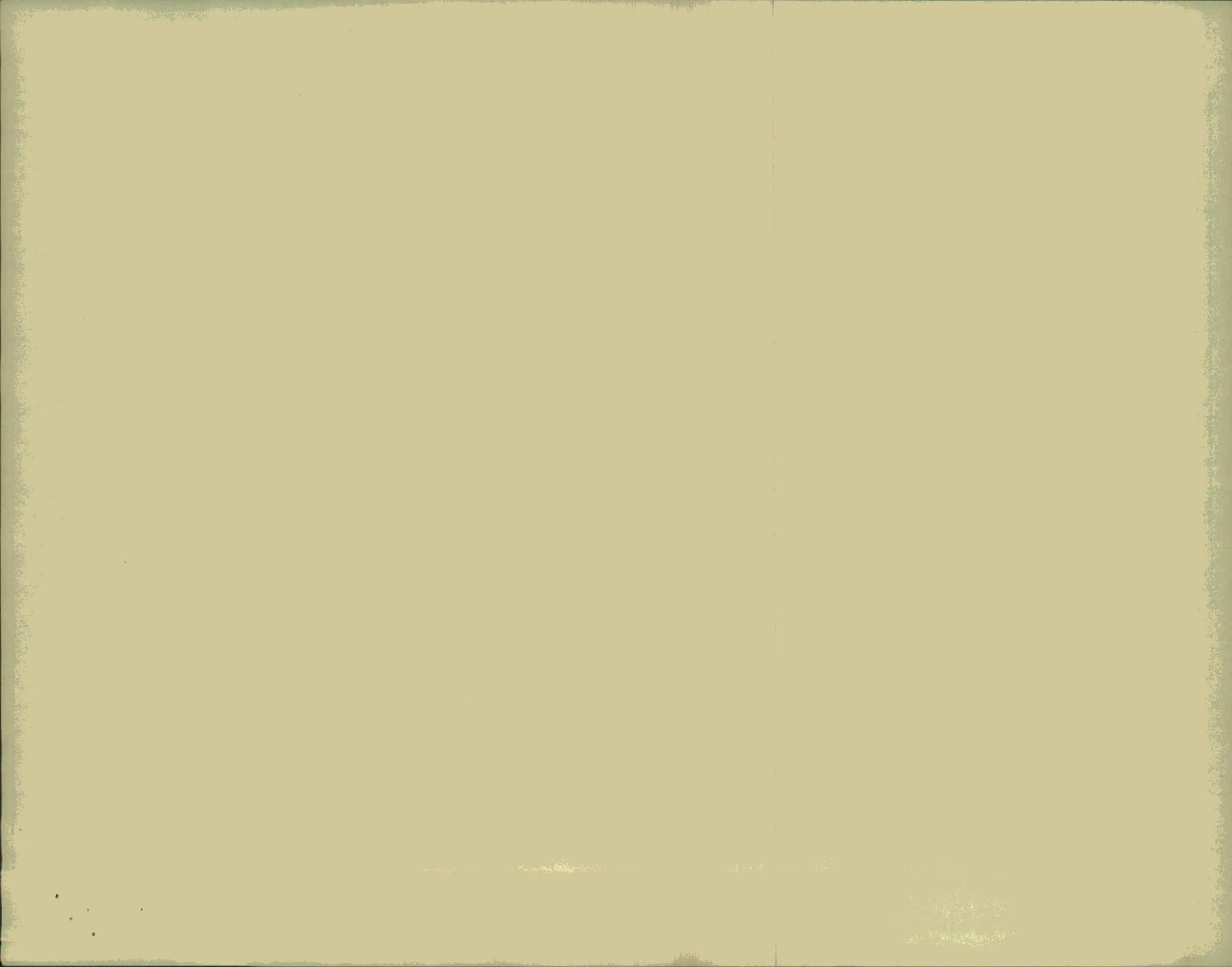
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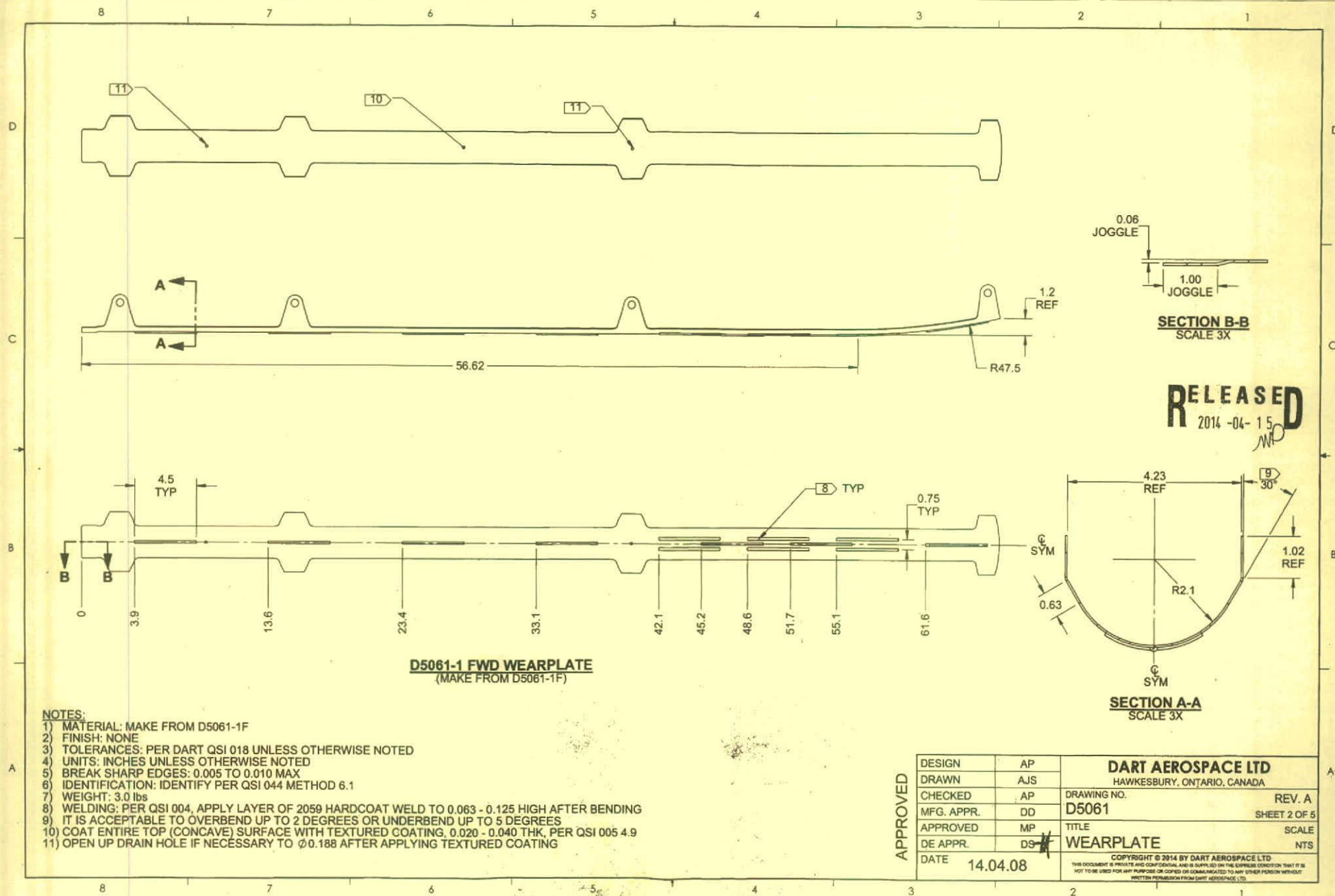
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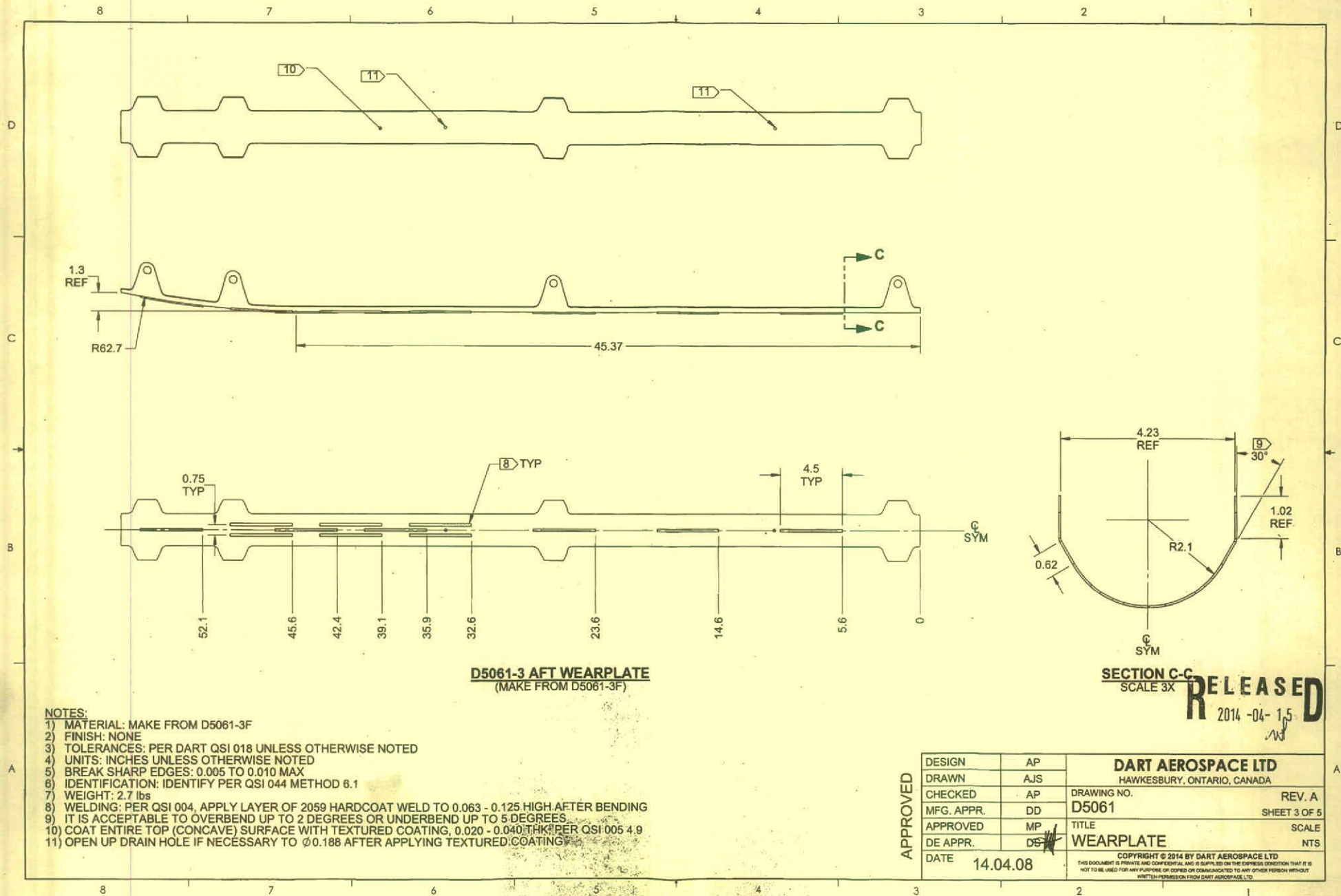
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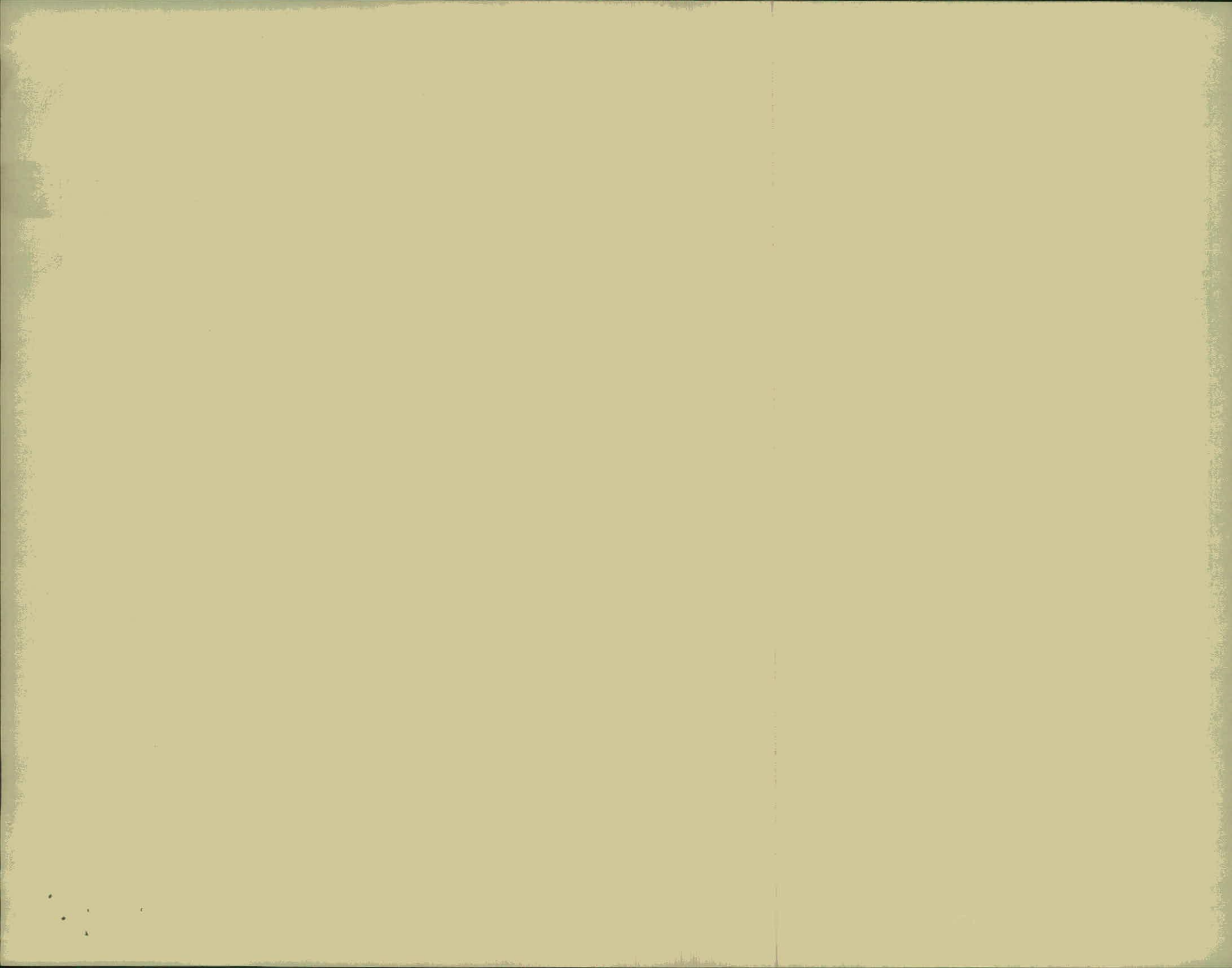
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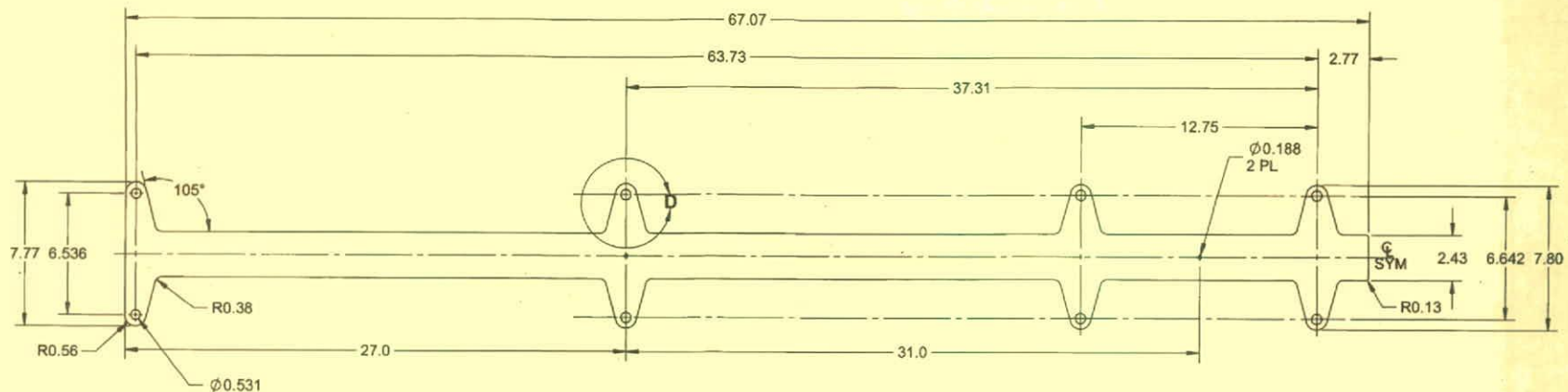
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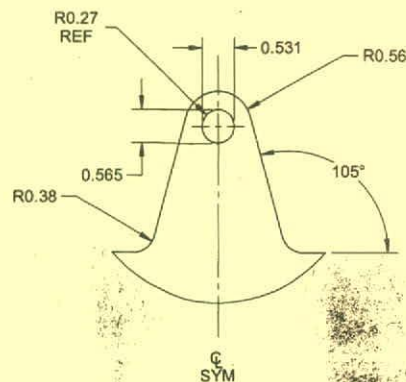








D5061-1F FWD WEARPLATE



DETAIL D
SCALE: 3X
3 PL

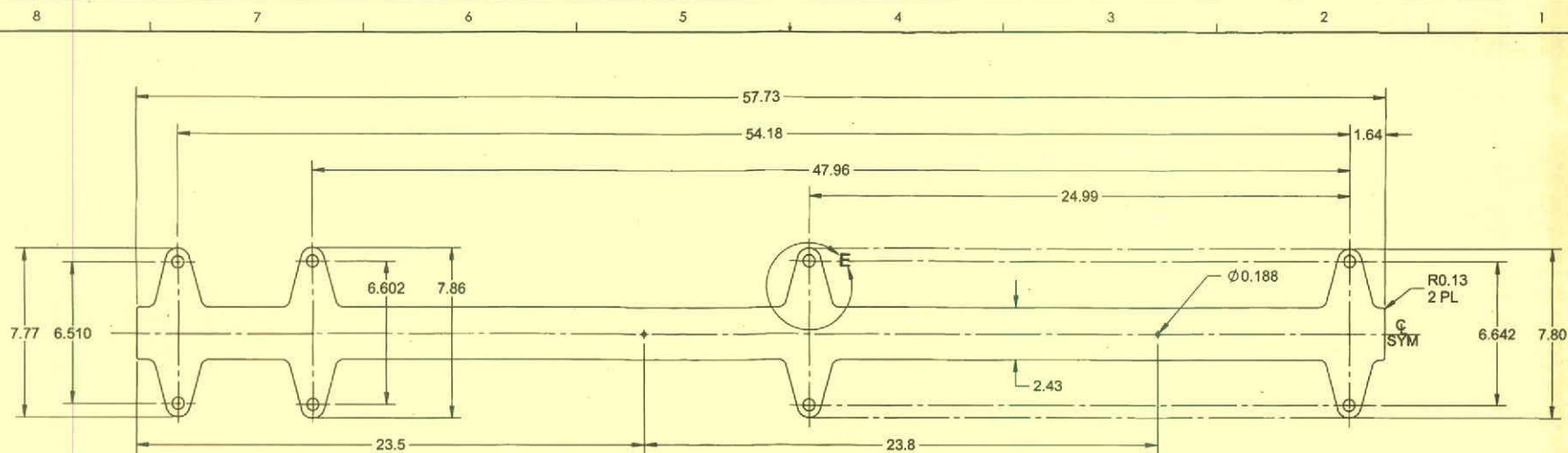
NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER MIL-S-5059 OR AMS 5513 OR AMS 5524 OR ASTM A240 OR ASME SA240 18 GAUGE 0.050 THICK (REF DART SPEC. M304S18GA)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

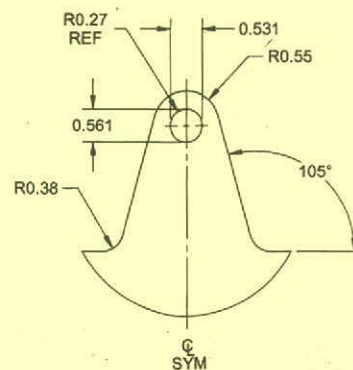
RELEASED
2014-04-15

APPROVED

DESIGN	AP	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5061	SHEET 4 OF 5
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	WEARPLATE	NTS
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D5061-3F AFT WEARPLATE



DETAIL E
SCALE 3X
4 PL

RELEASED
2014-04-15

- NOTES:**
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER MIL-S-5059 OR AMS 5513 OR AMS 5524 OR ASTM A240 OR ASME SA240 18 GAUGE 0.050 THICK (REF DART SPEC. M304S18GA)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: N/A

APPROVED

DESIGN	AP	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5061	SHEET 5 OF 5
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	WEARPLATE	NTS
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